

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
8 February 2001 (08.02.2001)

PCT

(10) International Publication Number  
**WO 01/09789 A1**

(51) International Patent Classification<sup>7</sup>: **G06F 17/60**

(21) International Application Number: **PCT/US00/20435**

(22) International Filing Date: **27 July 2000 (27.07.2000)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:  
09/364,932 30 July 1999 (30.07.1999) **US**

(71) Applicant: **TMP WORLDWIDE [US/US];** 1633 Broadway, New York, NY 10019 (US).

(72) Inventors: **HEALY, James;** 352 Park Avenue South, New York, NY 10010 (US). **LEE, John, P.;** 14 Continental Drive, West Nyack, NY 10994 (US).

(74) Agents: **WALLACH, Steven, I. et al.;** Pennie & Edmonds LLP, 1155 Avenue of the Americas, New York, NY 10036 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

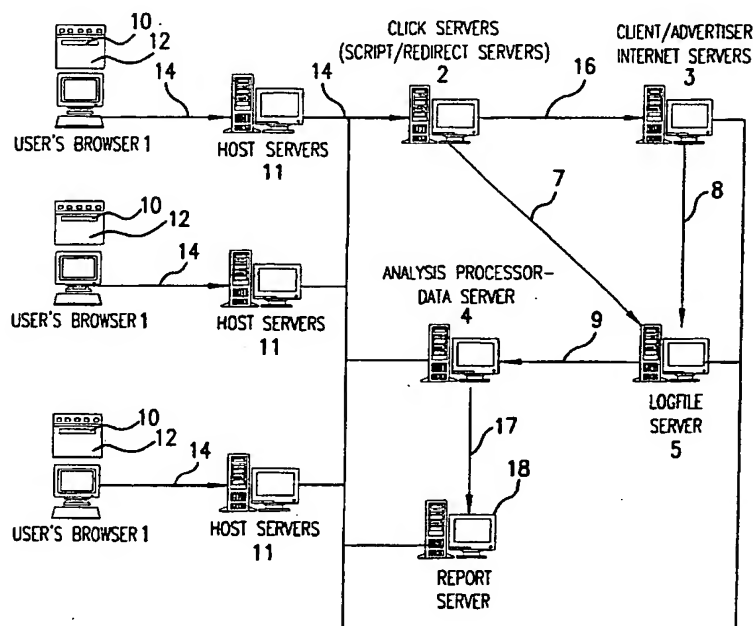
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **METHOD AND APPARATUS FOR TRACKING AND ANALYZING ONLINE USAGE**



(57) Abstract: A method and apparatus for online tracking whereby a user clicks or otherwise selects a link entry point such as a banner or other link that refers the user to an advertiser's Internet site (1). The online tracking system then records data (5) regarding the user and the user's interaction with the advertiser's Internet site. Ultimate performance data is collected for each referral and a score regarding the performance of the advertisement is calculated (4).

WO 01/09789 A1

## METHOD AND APPARATUS FOR TRACKING AND ANALYZING ONLINE USAGE

### FIELD OF THE INVENTION

5           The present invention relates generally to tracking of online usage, and in particular to tracking and analyzing online marketing efforts.

### BACKGROUND OF THE INVENTION

Several online applications can advantageously utilize a system for tracking  
10 and analyzing online usage parameters including specific data regarding the usage of particular users or groups of users, technical parameters and data regarding the users. A public service entity, news service, university or other online entity may track and analyze the performance of its information dissemination efforts and user demographic information, while a polling entity may also wish to track and analyze its online polling efforts. Internet  
15 media companies such as Internet Service Providers (ISP) that offer value added content, finance information sites, Internet special interest communities and gaming web sites may track and analyze online usage in order to determine the effectiveness of particular online offerings in order to focus efforts to retain subscribers. Similarly, advertisers can advantageously utilize a system to track and analyze the performance of their online  
20 marketing efforts. While many applications exist than can advantageously utilize the system of the present invention for tracking and analyzing online usage, the present invention will be described using an advertising application as an example. Accordingly, a reference to an advertiser is also intended to refer generally to any client of such a tracking and analysis system.

25           Online marketing campaigns generally involve the purchase of advertisement space and other marketing efforts (paid or unpaid) including links to the World Wide Web ("WWW") site of the advertiser. In an effort to increase traffic to their site and to bolster sales of products or services, advertisers can utilize a variety of online advertisements, such as banner advertisements on an Internet site, which are generally graphics and text in a  
30 rectangular shape at the top middle section of an Internet page when viewed using a WWW browser. The banner advertisements will redirect or refer the user to the advertiser's WWW page when clicked or otherwise selected by the user. Such referral can be accomplished by directing the user's browser to the Universal Resource Locator ("URL") of the Advertiser's WWW site. Banner advertisements can be animated, whereby the graphics change over  
35 time, and even interactive, whereby the user can input information that is sent to the Advertiser's site. Banner advertisement space is sold or provided free of charge by the

Internet site owner (advertisement host or host). Furthermore, a banner advertisement space will often be rotated such that the same user viewing a particular host WWW page will be presented with a different banner advertisement each time the page is viewed.

Similar advertisements appear in a different format or location of the WWW  
5 page being viewed. For example, button advertisements are similar to banner  
advertisement, but they usually do not rotate and may be of a different size and at a different  
location on the page being viewed. An animated banner advertisement consists of a  
supported graphical animation format that also links a user to the Advertiser's site. An  
interactive banner advertisement may include a pull down menu, text input box or other  
10 means to receive input from a user. When input data is received from the user, it may be  
passed to the destination site by way of name-value pairs in the URL line. The name of the  
variable and the value of the variable are both incorporated in the URL sent to the  
destination site.

Various additional trackable marketing efforts include HTML hypertext  
15 links, which are generally blue text that will direct a user to the Advertiser's site. Such  
links are common when viewing the pages of a online directory such as the pages of  
Yahoo®. Similarly, Interstitials are marketing efforts that the user encounters, which  
appear between the host and Advertiser's site. A user may be presented with a pop-up  
window advertisement that may include a new browser window covering all or a portion of  
20 the user's screen. Such Interstitials may include intermediary splash pages or bridge pages,  
which may be another WWW page including an advertisement that the user is redirected to.

Additionally, Internet media content providers may license the use of the  
content they create on other WWW sites in a syndication arrangement. Accordingly, an  
advertisement may be placed with an Internet media content provider that syndicates the  
25 content to several Internet Site owners or hosts and each particular host will refer users to  
the Advertiser's site. Furthermore, marketing campaigns may involve co-branding  
arrangements whereby two or more companies collaborate on a marketing effort.

Internet site owners (hosts) that sell banner advertisement space often charge  
their clients, the advertisers, based upon a number of impressions, which is the number of  
30 times the advertisement is downloaded or viewed by a WWW browser connected to the  
Internet. Alternatively, pricing can be based upon the number of users that "click" or  
otherwise select the banner advertisement. The banner advertisement is a link to and an  
entry point for another WWW site, e.g., the site of the advertiser.

Another marketing effort that advertisers may utilize is the purchase of a  
35 listing on a search portal, such as Yahoo® and Lycos®. The Advertiser pays for a listing  
on the search portal site that typically includes a hypertext link to the advertiser's WWW

site under a relevant category heading on the Internet site of the search portal. Ideally, the advertiser will obtain the optimal exposure to its intended audience for the advertising budget committed. When the user selects the text link, the user is redirected to the advertiser's WWW site. The cost associated with such an advertisement may be calculated

5 in a number of ways, e.g., a flat rate per time period, a fee based upon the number of impressions of the link viewed by users or a fee based upon the number of users that click through to the advertiser's site.

A company marketing its products or services on the Internet may use several sites to advertise or promote their offerings. Additionally, the company may be

10 listed with a directory service or any other interested party, such as a media content provider that critiques products which will provide a link to the Advertiser's WWW page.

As can be appreciated, the simple per-impression and per-click rate schedules described above do not necessarily reflect the value of the advertisement. For example, there is no way to determine whether users that viewed a banner advertisement or

15 even viewers that followed the banner advertisement link to the WWW site of the advertiser in fact purchased the advertiser's products or services. Accordingly, one can appreciate the disadvantages of prior methods of gauging the effectiveness of an advertisement by counting the number of users that selected a link on a banner ad or other similar advertisement. These approaches lack means to properly focus advertising dollars on

20 effective advertisements that result in new accounts or sales. Prior systems do not provide the ability to analyze and create rating scales and scores related to the performance of the marketing efforts based upon ultimate performance and the reporting of those results.

Prior systems do not collect and analyze a universe of performance and other data parameters including parameters, such as conversion to new accounts that can be

25 correlated to the particular user, groups of users, the particular marketing effort that referred the user or some group of marketing efforts. When a user follows an advertisement to the advertiser's site and then opens an account with the advertiser, the particular marketing effort that brought the user to the advertiser's site resulted in the new account. Similar performance data parameters include lead generation, which involves the user requesting a

30 sales representative to contact the user. Additionally, electronic commerce or "e-commerce" data parameters involve parameters regarding sales made to users who access the advertiser's WWW site. These parameters may include the time of the sale, the identification number and/or description of any items purchased, any promotional discount applied or earned and the method of payment used.

Furthermore, prior systems do not track and analyze user data, user

35 interaction data and demographic data that can be correlated to the particular user, groups of

users, the particular marketing effort that referred the user or some group of marketing efforts. Parameters of these types include the pageviews (WWW pages viewed by a user), retention data (how returning users react to the advertiser's site) and other usability issues.

Prior systems include the additional disadvantage in that they do not analyze  
5 performance and other data such as ultimate performance data, user data, demographic data and advertiser data to make marketing effort recommendations.

Similarly, another disadvantage of prior counting systems is that users or groups of users categorized by demographics or otherwise who simultaneously query several Internet sites such as search portal sites may be exposed to the same advertisement  
10 placed on multiple search portal sites. Such redundancy is an inefficient use of an advertising budget.

Similarly, another disadvantage of prior counting systems is the absence of the collection and analysis of demographic information that can be useful in targeting an online marketing campaign. Additionally, the absence of retention data whereby repeat  
15 business by a user or group of users can be collected and analyzed is a disadvantage of prior counting systems.

Similarly, another disadvantage of prior counting systems is the absence of marketing effort analysis using a per-dollar cost basis whereby the cost of a marketing effort is input into the system and used to rate the effectiveness of the marketing effort.

20 Furthermore, it would be useful to provide interactive advertisements that allow the advertiser to match its services and web pages to a prospective customer.

## SUMMARY OF THE INVENTION

The present invention is directed toward a system for online tracking, which  
25 has a "Click server" application that provides a unique sessional identification code for each redirection processed by the system, such as a user's click from a banner advertisement. The unique identification code may be stored on the user's computer using "cookies" or in a database that may be maintained on the Click Server or elsewhere in the system. Cookies are files stored on the user's computer that contain information usually generated by an  
30 Internet site visited by the user. The system may further use one or more click servers and may include a code unique to each particular Click Server in order to create identification codes that are unique system-wide. The system then collects information relating to the activity of the user and referenced by the unique sessional identification code. This information may be collected at a central location, at the advertiser's or other client's sites,  
35 or at a combination of sites. The information collected may be processed to provide information such as detailed reporting data, summary reporting data, marketing effort

performance calculations, user behavior and user group behavior data. Furthermore, customer reporting may be performed based upon an industry model or client request.

In a further aspect, the present invention is directed toward a system for online tracking which has at least one Click Server (Script/Redirect Server), whereby a user viewing a WWW page on a host site clicks or otherwise selects a link entry point, such as a banner advertisement or other link to an advertiser's Internet site. The link entry point is a particular marketing effort that may have a unique identification code assigned to it. The link selected by the user appears to be a link directly to the Advertiser's site, but is actually a link to a Click Server (Script/Redirect Server), which contains information regarding the ultimate destination of the Advertiser's Internet site along with information regarding the particular marketing effort link selected and aspects of the user's interaction with the link, such as the time stamp of the user's click and any data passed by the user to the entry point. The particular marketing effort may be identified by a unique Tracking Identification code ("TID") to identify the particular banner advertisement selected which is sent to the Click Server. The user may not perceive the process of redirecting the user from the host to the click server before reaching the final destination of the Advertiser's Internet site.

Additionally, the Click Server (Script/Redirect Server) may also provide Interstitial content to the user which may include presenting the user with a pop-up window in addition to redirecting the user to the final destination at the Advertiser's Internet site. Such Interstitial content may be provided by a CGI script or other program hosted at the Click Server (Script/Redirect Server) or other intermediate location between the host site and the Advertiser's site.

As can be appreciated, several Click Servers (Script/Redirect servers) may be used and they may be geographically situated to provide load balancing and may include redundant high bandwidth Internet connections. Similarly, the Click Servers may reside at the Advertiser's Internet location. Additionally, the Advertiser's site can be hosted at several locations and similar banner advertisements may link to separate Advertiser servers. Furthermore, the entire tracking system may reside on an Advertiser's servers.

As discussed above, each marketing effort such as a banner advertisement is assigned a unique Tracking Identification code ("TID"). Accordingly, the same banner advertisement placed at one host Internet owner's site such as Yahoo® may have a different TID than the same banner advertisement placed with Excite®, because they may be considered different marketing efforts to be separately tracked. Similarly, a banner advertisement placed at Yahoo® for a time period, such as the month of July, may have a different TID than the same banner advertisement placed at Yahoo® the following month. As can be appreciated, an Advertiser may choose to assign the same TID for a banner

advertisement placed on several sites or for various periods of time according to the Advertiser's tracking needs. The TID is associated with each data record collected as a result of a user selecting that marketing effort allowing the particular marketing effort or groups of marketing efforts to be analyzed according to the data collected.

5               When the user is redirected to the Click Server, a unique Sessional Identification code ("SID") is created and assigned to that particular click event and such SID is used to track the performance of that particular click. The SID may include a time stamp and a sequential mantissa. The SID may be designed to have a time stamp with adequate resolution to uniquely identify each click processed by the system, for example, to  
10 the nearest second. A unique sequential mantissa may be assigned to each click processed in that second. The mantissa may be designed to have a capacity that exceeds the maximum number of clicks that the system can receive in the smallest time period identified by the time stamp. In this way, each SID is uniquely identified by the combination of the time stamp and the mantissa. As discussed above, the system may utilize more than one Click  
15 Server. Accordingly, the SID may have a unique code associated with each Click Server so that each SID is unique, or the counter for the mantissa can be started at a different range of numbers for each Click Server.

              The first time that a particular user is redirected to a Click Server, a unique Permanent Identification code ("PID") is created. The Permanent Identification code may  
20 be created by assigning each user the next code in a sequential code or by reading an unique identification number from the user's computer. Another method for assigning a unique PID is to assign the unique SID created the first time a user accesses the system to be a PID. For each subsequent visit by the user, a new SID is created, but the PID created during the first visit is not changed. The PID may be stored on the user's computer by placing a  
25 cookie on the user's computer that is not set to expire for many years.

              As can be appreciated, the system may be used to track online marketing efforts for a number of Advertisers. The system wide PID is assigned to a user the first time the user accesses the system. When the user is redirected to a particular advertiser's WWW site, the SID is sent to the advertiser's site. The first time a user visits an advertiser's site,  
30 the value of SID is stored in another per user-identification field, also named "PID". For each subsequent visit by the user, the SID is stored in another per click event identification variable named ID. Accordingly, the PID at the Click Server (Script/Redirect Server) is not the same value as the PID at the Advertiser's site. The system may use different variable names for the system wide PID and the advertiser's PID.

35               The Identification codes may be created and stored at the Click Server. The user and entry point information may be collected and stored at the Click Server, and the

user then redirected to the final destination, i.e., the Advertiser's site, whereby such redirection may be transparent to the user. The Click Server may write permanent cookies to the user's machine. However, because cookies are normally available only to the domain that wrote them, the Click Server may send the identification information to a Gateway  
5 program running on the Advertiser's site. The Gateway can write the necessary cookies to the user's machine such that they do not practically expire. The Gateway program may then redirect the user to the appropriate location on the advertiser's site. Additionally, the system may be implemented without additional software on the user's computer because the system performs its tracking functions using only a browser on the user's computer.

10 Additionally, the system may track users that do not use the Click Server (Script/Redirect Server) to access the Advertiser's WWW Site. For example, a user could re-visit a site by using a "bookmark", whereby the user stored the address of the advertiser's site in an address book in the user's browser or any other method of viewing a site. If that user had visited the system before, the user may have a PID cookie stored on the user's  
15 computer which could be tracked. Similarly, if the user had visited that particular advertiser's site before, that user may have a PID assigned at the Advertiser's site that could then be compared to a database of SIDs assigned at the Click Server which in turn relates to a system wide PID at the Click Server. Accordingly, the system may track data grouped by types such as sessional data that is collected as the result of a click from a tracked marketing  
20 effort, return-from-banner data that is collected as the result of a user returning to a site that the user originally was referred to by a marketing effort, and return-from-other data that is collected as the result of a user returning to a site that the user was not referred to by a tracked marketing effort.

Each unique separate click event SID recorded by the system is associated  
25 with the TID of the marketing effort that referred the user to the advertiser's WWW site. A visit that is not initiated through the system Click Server, but that is still tracked could be associated with the TID that first brought the user to the site or any other TID such as the most recent TID to refer a user to a site.

Accordingly, the system preferably utilizes a unique identification code for  
30 each recognizable user that does not depend on any particular advertiser visited such that the same user will have the same identification code for each advertiser's site visited. As can be appreciated the tracking system of the present invention can be implemented in more than one location such as on a single Advertiser's system or on servers that interact with a subset or non-overlapping group of Advertisers' servers to track a more narrow universe of  
35 contacts whereby the system may track information regarding a subset or non-overlapping group of advertisers.



The user information collected may include a Permanent Identification record ("PID") which contains a unique identifier for each user, a Sessional Identification code ("SID") which contains a unique identifier for each click event, information regarding the user such as the browser being used and the serial number of the computer.

- 5 Additionally, information input by the user into an interactive marketing effort or data otherwise obtained from the user can be collected and stored by the system for analysis and also forwarded to the advertiser's site. The information may be stored on the user's computer if cookies are supported. Alternatively, such data may be stored on the Click server or a Logfile Server which may be, for example, a database and log file preprocessing  
10 application located on a computer connected to the Internet.

- In a further aspect, the present invention also includes a system for tracking and analyzing online marketing efforts based upon information collected regarding the user's interaction with an advertiser's site. When the user is redirected to the Advertiser's site, the URL passing the final destination at the Advertiser's site may include name value  
15 pairs to pass the TID, SID and other information to the advertiser's site. Redundant information regarding the banner name and the host name for each marketing effort may be sent to the advertiser's site by the Click Server. The system may employ a gateway script application at one or more advertiser's site that may be used to set cookies on the user's computer and to redirect the user to the final destination page on the advertiser's site. The  
20 gateway may be a CGI script written in any appropriate language to support different computing platforms used by various advertisers.

The log data from commercially available or custom e-commerce WWW sites is routinely collected in databases. These database servers may be modified to include the PID and SID information passed to the Advertiser's site by the Click Server.

- 25 Furthermore, an advertiser's system may track a user that does not enter by redirection from a Click server by reading the PID from a cookie on the user's computer if it exists or by creating a new User Identification ("CID") if a cookie is not available or if cookies are not supported by the Advertiser's site.

- The log files may be sent to a log server and may be stored in a log file  
30 server and pre-processed to reformat the information collected. Additionally, a separate data collection application may be run at the Advertiser's Site whereby relevant data is collected. Such data may be stored in a database or log files maintained at the Advertiser's site or elsewhere which can be located on a computer or multiple computers connected to the Internet at various locations. The client data log files containing the PID and SID  
35 parameters may include other user data such as the browser used, time of the visit, the pages viewed and other usability information. The advertiser may define certain pages to be

sections of pages in order to track traffic in a particular section of the advertiser's Internet site. Commerce log files may be maintained including e-commerce data, demographic data, data related to the ultimate performance of the individual marketing efforts and other data. The electronic commerce information collected may include information such as an order  
5 identification number, order time stamp, product identification numbers with quantity and price, description of the products, discounts applied, frequent purchaser data, tax information and shipping information. Membership logs may be maintained that include account information regarding new account generation, sales lead generation and other criteria.

10               The logs and any other collected information are then sent to a Logfile Server that can include a database or other file system located on a computer or multiple computers connected to the Advertiser's computers by a communication channel such as modems connected to the telephone system or the Internet. The logs and data are sent on a regular basis, either in real-time, near real-time or in batch mode.

15               In a further aspect, the present invention is directed toward a system for evaluating the performance of online marketing campaigns in terms of several criteria, such as new account generation, sales, ease of use and reduction of advertisement redundancies and expense. The system may receive various performance data and process the data to provide metrics that are indications of the quantitative performance of a particular  
20 marketing effort or group of marketing efforts. Accordingly, a particular marketing effort such as a banner advertisement on a host owner's Internet site such as Yahoo® or Excite® for a specific time period, such as a month, is tracked using a unique tracking identification value ("TID"). Each particular referral from a TID is assigned a SID used to track the performance of that referral. Additionally, information is collected regarding visits not  
25 referred by the Click Servers.

The information collected by the Click Servers and Advertiser's sites regarding the links accessed and the user information may be stored as log files and processed in a Log server where it may be subject to pre-processing application to reformat the log files. The reformatted data may be sent to a Analysis Processor and database server  
30 in real-time, near real-time, or in batch mode across a communications path that may be the Internet, direct modem connection across telephone lines or other communications path. The Analysis processor application and database server may exist on more than one computer and may share a computer with other components of the system. The data may be analyzed against the campaign decision-making data collected by the advertiser's site.

35               A score or set of resultant data called metrics may be created for each particular marketing effort or groups of marketing efforts based upon the data collected.

The metrics calculated for an advertiser that generates revenue primarily by increasing user Internet traffic to the advertiser's site may include metrics related to the number of visits, length of stay and number of pages viewed by a user. The metrics may include total performance of a marketing effort based upon total visits per day referred by a tracked marketing effort, return visits originally referred by a tracked marketing effort and return visits that were not generated as the result of a referral from a tracked marketing effort. Similarly, advertisers that generate income through the sales of goods or services may track additional metrics related to the number of orders, the number of units sold, the dollar value of goods or services purchased, the average transaction amount, the average number of units purchased per order and the conversion rate. A conversion rate metric can be defined as the number of orders divided by the number of visits to the site. As can be appreciated, the data collected and metrics collected and calculated may be grouped by types, such as sessional data, return-from-banner data and return-from-other data.

Campaign Data regarding the cost of each particular marketing effort or advertisement may be collected from the host or the advertiser. The data may be collected manually or automatically and may be sent to the Analysis Processor and database server in real-time, near real-time, or in batch mode across a communications path that may be the Internet, direct modem connection across telephone lines or other communications path. Additionally, a score or measure of the Return on Investment ("ROI") may be calculated for a particular marketing effort or group of marketing efforts. Furthermore, data regarding the same user or a demographic sample of users and redundant entries from various advertiser entry points can be analyzed to determine a score of overlap related to the various advertisements used.

Additionally, cost and demographic data regarding other marketing opportunities available for future marketing campaigns and representative scores for the performance for such potential future advertisement or marketing efforts based upon demographics or other information may be evaluated along with the results for the performance of past marketing efforts in order to suggest a redistribution of marketing efforts.

In a further aspect, the present invention is directed toward a system for obtaining, storing and analyzing user demographic information. The system may enable the coordination of such information with particular marketing advertisements or efforts in order to use information obtained about the user or groups of users to formulate the advertiser's WWW presentation made to the user. The data collected by the system may be analyzed and sorted by answers given by a user or groups of users to questions presented by interactive marketing efforts. Additionally, the system may track which particular items or

pages viewed are more popular with users or a particular group of users and accordingly, the advertiser could reconfigure its Internet site manually or automatically based on such performance information feedback. Additionally, the data collected by the system may be analyzed to report on the performance of a particular group of users such as a group of users in a frequent buyer membership club. For example, the system may track the performance of all users that opened an account with the advertiser in the last six months.

In a further aspect, the present invention is directed toward a system for reporting the results of the tracking and analysis operation. The metrics obtained from the Analysis processor and data server may be sent to a Report server. Advertisers may access reports generated by the system by logging into the Report server and viewing the reports. Additionally, access to certain reports may be limited and other reports may be manually formatted and sent to the advertiser in a hard copy format.

In a further aspect, the present invention is directed toward a system for tracking and analyzing data in aggregate rather than by particular advertiser. Accordingly, metrics may be generated regarding performance of similar marketing efforts placed for more than one advertiser. Similarly, demographic information may be used to produce metrics reporting on various tendencies of users or groups of users across the entire system or subset of advertiser's sites.

While the invention has been described with reference to tracking online marketing efforts, the invention is of course useful in other systems such as a news service, university or other online entity that disseminates information. The invention may be useful for Internet media companies such as Internet Service Providers (ISP) that offer value added content, finance information sites, Internet special interest communities and gaming web sites to track and analyze online usage in order to determine the effectiveness of particular online offerings in order to focus efforts to retain subscribers.

## BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the present invention is described herein with reference to the drawings wherein:

FIG. 1 is a block diagram of a preferred system for tracking and analyzing online marketing efforts;

FIG. 2 is a block diagram of a preferred collection of log files;

FIG. 3 is a block diagram of a preferred temporary data file;

FIG. 4 is a block diagram of a preferred host group database;

FIG. 5 is a block diagram of a preferred members log file for use without cookies;

FIG. 6 is a block diagram of a preferred collection of log files for use with a Universal Cookie system; and

FIGS. 7 a-c are block diagrams of a preferred data structure according to the present invention.

5

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

In general, the online tracking system of the present invention collects information concerning one or more relevant data items as related to particular marketing efforts or groups of efforts and stores the information. The data items may be formatted or  
10 further processed to produce metrics that may be used when considering the effectiveness of a particular marketing effort. The metrics may include ratings or scores that reflect the effectiveness and quantitative performance of various marketing efforts such as a particular banner advertisement. The data metrics may be formatted for presentation to an analyst or client or may be processed automatically to suggest modifications to a marketing placement  
15 strategy.

A preferred embodiment of the present invention is described in detail below with reference to the drawings. The figures will be used to explain the theory of operation of the tracking system using block diagrams of the system and databases utilized.

Referring to FIG. 1, therein is illustrated a block diagram of the system for  
20 tracking and analyzing online marketing efforts according to the present invention. Internet or WWW users viewing a host Internet page 10 containing an entry point 12 are represented by User Browsers 1. The host Internet sites preferably reside on host Internet Servers 11. As can be appreciated, any electronic or other device allowing information to be transferred which provides a plurality of users with access to the client or advertiser site 3, including  
25 users on Intranets, Local or Wide area networks, direct dial networks or future networks such as the Internet2 may replace the Internet connection 14 to the User Browsers 1. Any particular marketing effort such as a banner advertisement can replace the entry point 12.

As can be appreciated, each of the various Servers 11, 2, 3, 4, 5, and 18, may reside on the same computer. Additionally, one or more of the Servers 11, 2, 3, 4, 5, and  
30 18, may reside on more than one computer and may be geographically separated from one another whereby the communications connections depicted 6, 7, 8, 9, 14, 16 and 17, will connect the various computers used along multiple paths.

The Users typically click or otherwise select an entry point 12 which is preferably a banner advertisement, but could be a button advertisement, text link, or other  
35 link. The entry point 12 is viewed on the host HyperText Markup Language ("HTML") page 10 and includes a referring Universal Resource Locator ("URL") link. The referring

Universal Resource Locator ("URL") link would normally point to the address of the final destination which would be the client/advertiser's Internet site. The URL that is actually associated with the entry point 12 in the host's HTML page 10 is a link to the Click Server 2. URLs may be used to send information to the destination page using name value pairs.

5 The URL may have a data field name and associated value embedded in the URL which can then be parsed and used by the receiving site. Accordingly, each particular marketing effort to be tracked, such as a banner advertisement on a host owner's Internet site for a specific time period or number of impressions is assigned a unique tracking identification value ("TID"). The TID is passed with the URL to the Click Server 2 as a name value pair along  
10 with other redundant information regarding the marketing effort such as the host name and the banner name.

When the user is redirected to the Click Server 2, a unique Sessional Identification ("SID") is created and assigned to that particular click event and such SID is used to track the performance of that particular click. Accordingly, there is a unique  
15 identifier for each user referral by banner link or otherwise that is processed by the Click Server (Script/Redirect Server) 2 and therefore, the SID is considered a "per click" event. The SID preferably includes a time stamp to the nearest second and a six digit sequential mantissa. Accordingly there are one million available SIDs each second, such that every referral processed by the system has a unique SID. The system preferably includes more  
20 than one Click Server 2 and each Click server 2 starts the mantissa count with a unique most significant digit of the mantissa. As can be appreciated, the system may be expanded or reduced and additional or fewer digits included in the mantissa. Accordingly, each particular referral from a TID is assigned a SID used to track the performance of that referral.

25 The first time that a particular user is redirected to a Click Server 2, a unique Permanent Identification code ("PID") is created. The Permanent Identification code is created by assigning the unique SID created the first time a user accesses the system to be a PID. For each subsequent visit by the user, a new SID is created, but the PID created during the first visit is not changed.

30 The Click Server (Script/Redirect Server) 2 collects or creates information regarding the user's interaction with the entry point 12 including information about the entry point selected (e.g., the TID identifying the originating banner advertisement and the originating host Internet site), the time stamp of the user's click, any data passed by the user to the entry point by interactive banner advertisement or otherwise, the user's identification  
35 and the final destination on the advertiser's Internet site. The host site specific data and interactive data are sent to the Logfile server 5, for example, daily, via the Internet 7 in

encrypted form where the data is pre-processed into usable form. The raw data is preserved via backup on Click Server 2.

The Click Server/Script Redirect Server 2 may also be programmed to produce Interstitials presented to the user if the URL for the marketing effort links to a CGI script that will produce a pop-up or other Interstitial to the user before redirecting the user to the final destination on the Advertiser's site 3.

The click Server 2 then redirects the user to the Advertiser's site 3 via the Internet 16. The user information, entry point information and any interactive data is passed via URL name value pairs to the Advertiser's site 3 which is running a Gateway script. The system is implemented without additional software on the user's computer and the redirection to and from the Click Server 2 is usually transparent to the user unless Interstitials are provided.

The Gateway script writes the necessary cookies to the user's machine such that they do not practically expire. The Gateway program then redirects the user to the appropriate location on the advertiser's site that could depend on any interactive data input by the user.

As can be appreciated, the system may be used to track online marketing efforts for a number of Advertisers. The system wide PID is assigned to a user the first time the user accesses the system. When the user is redirected to a particular advertiser's WWW site 3, the SID is sent to the advertiser's site. The first time a user visits an advertiser's site, the value of SID is stored in another per user identification field also named PID. For each subsequent visit by the user, the SID is stored in another per click event identification variable named ID. Accordingly, the PID at the Click Server (Script/Redirect Server) is not the same value as the PID at the Advertiser's site.

3. As the user interacts with Advertiser Site 3, the Advertiser Site 3 produces enhanced web server, commerce and member logs that include PD and SD information in addition to the other data collected, such as user data, demographic data and e-commerce data. This data is processed to provide metrics that relate to the ultimate performance of the individual marketing efforts. The information collected at the Advertiser Site 3 is formatted to be compatible with the system requirements and includes user data such as the user identification, the browser used, the time of the entry, the Internet pages visited, pageviews, retention, and the time of the visit.

The information collected at the Advertiser site 3 may also include electronic commerce information, such as an order identification number, order time stamp, product identification numbers with quantity and price, description of the products, discounts applied, frequent purchaser data, tax information and shipping information. The

information collected may further include account information regarding new account generation, sales lead generation, usability information and other criteria.

The raw log files are collected at the Advertiser site 3 and may be preserved on backup media. The raw logs are then sent to a Logfile Server 5, for example, daily via the Internet 8.

In an embodiment of the invention, the system will receive data related to marketing effort cost and other data via automated means or by a person manually inputting the data into the system. For example, a system administrator sends an Excel ® template to the Host site administrator. The Host site administrator will then input information regarding the marketing effort cost and other data such as the number of impressions for a marketing effort or group of marketing efforts into an Excel ® file and then transmit the file to the system administrator. The system administrator then inputs the data into the Analysis Processor/Data Server 4 for processing. The data may be sent to the Analysis Processor/Data Server 4, for example, weekly, via the Internet 6.

The raw log files are pre-processed at the Logfile Server 5 and the Logfile data is sent from the Logfile Server 5 to the Analysis Processor and Data Server 4, for example, daily via the Internet 9.

Subsequently, the Analysis and Data Server 4 processes the Logfile databases and the data provided by the Hosts. The information collected by the Click Servers (Script/Redirect Servers) 2 regarding the links accessed and the user information is analyzed along with the campaign decision-making data collected by the advertiser's site 3 and the campaign cost information provide from the Host sites 1. Several data metrics are calculated to provide a quantitative indication of a marketing effort or group of marketing efforts.

Preferably a measure of the Return on Investment ("ROI") may be calculated for each marketing effort or group of marketing efforts. The ROI may be calculated by dividing the revenue collected by the expenditures.

Furthermore, data regarding the same user or a demographic sample of users and redundant entries from various advertiser entry points 12 is be analyzed to determine a score of overlap related to the various advertisements used. A list of visitors to a first site can be compared to a list of visitors to other sites in order to determine the percentage overlap between the sites.

Several standard metrics are preferably tracked and analyzed for each advertiser. Table 1 provides a list of common variables or data elements which are collected and the description of each.



TABLE 1

Variable/Metric Name (Preferably per/day)	Metric Description and/or Formula (Preferably by a particular marketing effort)
Clicks	User "clicks" or selections of a tracked marketing effort
Visits/Arrivals	Referred User clicks that arrive at the client's Internet site
Return Visits by Banner	User return arrivals referred by a particular marketing effort
Return Visits by Other	User returns not referred by a tracked marketing effort
New Visits/Arrivals	Referred arrivals that are not return arrivals
Pageviews	Number of pages viewed by users referred to client
Return Pageviews by Banner	Number of pages viewed by referred return arrival users
Return Pageviews by Other	Number of pages viewed by non-referred return arrival users

As can be appreciated, the reports generated for each advertiser may be different and include different metrics.

An advertiser that generates income by attracting Internet traffic to its site may advantageously track marketing effort performance based upon metrics such as new visits referred to the site by a marketing effort. Table 2 provides a list of a preferred set of metrics collected and calculated for an advertiser that generates income by increasing Internet traffic to its site. As discussed above, the data collected is categorized as sessional data, return-from-banner data or return-from-other data allowing for the calculation of some of the metrics described below. The metrics may be provided as a summary for one marketing effort, a group of marketing efforts or an entire campaign. Additionally, the reports may compare the performance of certain marketing efforts or groups of marketing efforts against one another.

TABLE 2

Metric Name	Metric Description or Formula (preferably per day values)
New Visits	New Visits

	Return Visits	Arrivals - New Visits + Return by other
	Return Visits by Banner	Arrivals - New Visits
	Return Visits by Other	User returns not referred by a tracked marketing effort
5	Total Visits	Arrivals + Return Visits by Other
	New Pageviews	Pageviews - Return Pageviews by Banner
	Return Pageviews	Pageviews + Return Pageviews by Other - New Pageviews
10	Average Pages per New Visit	New Pageviews / New Visits
	Average Pages / Return Visit	Return Pageviews / Return Visits
	Total Pageviews	Pageviews + Return Pageviews by Other

An advertiser that generates income by selling services or products through  
 15 contacts at its Internet site may advantageously track marketing effort performance based  
 upon metrics such as a conversion rate of orders per visit. Table 3 provides a list of a  
 preferred set of metrics collected and calculated for an advertiser that generates income by  
 sales of products and/or services in addition to the metrics listed above in Table 2. As  
 discussed above, the data collected is categorized as sessional data, return-from-banner data  
 20 or return-from-other data allowing for the calculation of some of the metrics described  
 below. The metrics may be provided as a summary for one marketing effort, a group of  
 marketing efforts or an entire campaign. Additionally, the reports may compare the  
 performance of certain marketing efforts or groups of marketing efforts against one another.

25 TABLE 3

	Metric Name	Metric Description or Formula (preferably per day values)
	Orders	Orders by users referred by a particular marketing effort
30	Orders by Other	Orders by users not-referred by a tracked marketing effort
	Return Orders Banner	Orders by people returning via banner
	Total Orders	Orders + Orders by Others
	Units	Units purchased by users referred by a particular marketing effort
35	Units by Other	Units purchased by users not referred by banner

	Total Units	Units + Units by Others
	Dollars Spent	Dollars spent by referred users
	Dollars Spent by Other	Dollars spent by non-referred users
5	Total Dollars	Dollars spent by referred users $\pm$ Dollars spent by non-referred users
	Average Transaction	Total Dollars / Total Orders
	Average Units per Order	Total Units / Total Orders
10	Conversion Rate	Total Orders / Total Visits
	New Conversion Rate	Orders from a New Visit/ New Visits
	Join with Kit	Members with Kit + Members Other with Kit
	Join without Kit	Members without Kit + Members Other without Kit
15	Join Total	Join with Kit + Join without Kit
	New Visit Conversion	(Members with Kit $\pm$ Members without Kit) / New Visits
	Return Visit Conversion	(Members Other with Kit $\pm$ Members Other without Kit) / Return Visits Other
20	Total Conversion	Join Total / Total Visits

In the above table, a Kit is a type of membership group that is tracked and the "Members Other" category include members that joined without having been referred by a tracked marketing effort.

Furthermore, several demographic metrics are collected and analyzed by reference to the unique sessional and permanent identification codes and further reference to groups of users. For example, the performance (in terms of any performance metric such as dollars spent) of a group of preferred members, registered members, or subscription members can be compared to nonmembers. Similarly, the performance and behavior of Yahoo® users can be compared to that of InfoSeek® users. Other similar comparisons may be made such as the performance of heavy users (categorized as those that visit often and visit many pages) versus that of light users.

Interactive advertisements are used to collect data from users and groups of users. The data collected can include income level, age, sex, and any other lifestyle information that is passed to the system as an "answer". The answers are collected and stored using the unique permanent and sessional identification codes. Accordingly, demographic metrics are provided such as the number of pageviews for women 18-25 years

of age. Such Web usage behavior is determined by querying the database that has the demographic answers assigned to a PD and SD and the associated behavioral metrics such as pageviews also associated with a PD and SD.

Furthermore, the system can track the performance of a user or groups of users system wide and assign a score to a user as an active e-commerce user across the system. A user's buying patterns can be analyzed based upon purchase at categories of Advertiser's sites.

Furthermore, the data metrics collected or created at the Analysis Processor and Data Server 4 are formatted into a summary report for each advertiser and a detailed Excel® report which are transmitted to the Report Server 18 via the Internet 17 in encrypted form. Clients may access the Report Server 18 via the Internet 14 to receive summary reports by entering a client identification code and password.

Referring to FIGS. 2-7, therein are illustrated database objects having records and fields. Each field that has a pound sign symbol "#" next to the name of the field in any of Figures 2-7 is a primary key field. Each primary key field or a group of primary key fields (if a record has more than one primary key field) must uniquely identify the particular record of the database object. Similarly, each field with a star symbol "\*" next to the name of the field in any of Figures 2-7 is a field that cannot have a null value. The fields not marked with these symbols may be non-unique or null values. Similarly the representation of the interconnections between objects is significant in that a single line connected to an object denotes a single record whereas a triangular representation denotes many records. For example, the Logfiles 210 record has one record associated with many records of the Client data record object 220. The fields may contain data or inheritance or other references to data.

Referring to FIG. 2, therein is illustrated a representative collection of Log File databases 200 having record and field objects. The Log File database 200 includes a Logfiles database object 210 having fields relating to a unique identification number for the Logfile (#\*log-file-id) and the name of the Logfile (\*name). The Log File database 200 includes a Client Data database object 220 having fields relating to data collected each time a user was referred to or otherwise returned to the Advertiser's Internet site. As discussed above with reference to FIG. 1, the Advertiser's e-commerce server on Advertiser site 3 is preferably modified to include the PD and SD provided by the Click Server into the standard Web Server Logs which are sent to Log File server 5 daily and pre-processed to obtain Log File databases 200 which are then sent to the Analysis Processor/Database Server 4 daily. The fields of Client Data database object 220 include the log file identification code, a time stamp associated with the particular visit associated with each

record, the PD of the user and the SD associated with the visit. Additionally, fields related to the partition bit and Section Identification used for tracking sections visited (section-id). A section may be defined as a URL or a group of URLs. Similarly, the clientdata record contains information regarding the user such as answers to demographic or other survey questions, site interaction data such as the number of pageviews and other information regarding a user's interaction with the Advertiser's site.

The Log File database 200 includes a Commerce Data database object 230 that may not exist for every TD tracked. The Commerce Data object contains any commerce related data collected including sales information. The Commerce Data database object 230 also has fields having fields relating to data collected each time a user was referred to or otherwise returned to the Advertiser's Internet site, including the PD, SD and time stamp. Additional fields include an Order Identification code for a particular order placed by a user, at least one Product Identification code along with a Quantity field having the number of each product or service purchased. Additional fields included are the two description fields, Description 1 and Description2 that may contain descriptions of the products or processes purchased. Similarly, there is a field for tax information and a field for shipping information that may include dollar amounts, contact information and tracking information.

The Log File database 200 includes a Impression Reports Database object 240 that may not exist for every TD tracked. The Impression Reports Database contains data related to the particular marketing effort and every sessional identification code tracked. The Impression Reports Database object 240 includes data from Advertiser sites with more automated reporting features installed in order to provide several data metrics. The Impression Reports Database object 240 includes fields identifying the Advertiser and the Campaign being tracked along with the time stamp and TD for the marketing effort. Additionally, fields related to the site, location, creative, impressions and clicks are included.

The Log File database 200 includes a Members Database object 250 that may not exist for every TD tracked. The Members Database object 240 includes the PD, SD, time stamp and Logfile identification code along with a field that identifies the type of member group that the user is associated with.

Referring to FIG. 3, therein is illustrated a preferred temporary data file. Temp object 310 is used to store and manipulate a subset of the millions of records associated with the millions of unique SDs created by the system.

Referring to FIG. 4, therein is illustrated a preferred host group database. The Host Group database **410** includes fields which identify each host by name and identification code that is associated with a particular Host Group record.

Referring to FIG. 5, therein is illustrated a preferred members log file for use without cookies. The CH Members database **510** facilitates sessional tracking through the use of SD information without using cookies.

Referring to FIG. 6, therein is illustrated a preferred collection of log files for use with a Universal Cookie system. For advertiser's that utilize a Universal Cookie System ("UCS"), the Client data **610** and Commerce **620** log files that are similar to those of FIG 2, are modified to incorporate a UCS Identification code field and a Map database **630** is created with fields referencing the UCS Identification code with the PD, SD and time stamp used.

Referring to FIGs. 7a-c, therein is illustrated a representative block diagram of a preferred data structure according to the present invention. The database represents data collected, stored and analyzed by the system and is preferably stored in a relational database such as Oracle®. As can be appreciated, many data structures may be used including a multidimensional database. Much of the data is entered into database tables manually by system campaign managers that manage the tracking process for the client advertisers using the tracking system of the present invention.

Referring to FIG. 7 a, therein is illustrated the portions of the data structure which relate to the tracking and performance information for the system as it tracks the performance of each marketing effort by the associated TD.

The portion of the data structure illustrated in FIG. 7a includes a Campaign Data Map **716** which includes input from several automated and manual input data sources. For example, the preferred campaign identification information object **720** includes identification information collected in the campaign data object **716**. The campaign type object **718** defines whether the campaign is a standard media campaign such as banner advertisement placement, sponsorship barter or distribution. Similarly, the report day object **702** identifies the day of the week that each Host will report the number of impressions viewed for a particular banner or other cost information. The buy type record **704** includes identification information regarding the method of calculating the cost of an advertising campaign such as cost per impression and cost per click. The subsections record **706** includes information regarding the location that the advertisement is displayed on the host site. The site type record **708** includes information regarding any categories assigned to the host site such as an arts site or financial site. The host-buy data record **710** is used to collect the host site reporting data such as the number of impressions and the

number of clicks for a creative-tracking-id (TD) for a specific date range. The date range object 712 is a general table used to assign start and end dates at more than one location in the database map.

The portion of the data structure illustrated in FIG. 7a also includes a Hosts record 724 which includes information regarding the host of the marketing effort. The information includes the URL of the host and contact information. The network record 722 allows the system to group hosts in a network so that the system can track performance of a marketing effort for a group or network of hosts. The contacts record 726 is a table of contacts that is used to input the contacts stored in the hosts record 724.

Referring to FIG. 7b, therein is illustrated the portions of the data structure which relate to the creative design and makeup of each marketing effort.

The portion of the data structure illustrated in FIG. 7b includes a Creative record 746 which includes information regarding each marketing effort such as a banner. The creative type record 740 includes information regarding the type of marketing effort being tracked, for example, whether the marketing effort it is a banner advertisement, animated banner, text link, interactive advertisement or other marketing effort. The creative deal 744 record includes data regarding the payment arrangement. For example, barter, purchase, distribution or sponsorship. The creative unit record 742 includes data describing the category of advertisement, for example, banner advertisement or button advertisement.

Because certain Host sites may only accommodate a subset of available marketing effort sizes, the preferred embodiment includes a creative size host map 752 which includes reference information regarding the advertisement sizes supported by each host. The creative format record 750 record includes information regarding the marketing effort computer file format, for example, GIF, JAVA, HTML, or other format such as Realmedia. Host sites may only accommodate certain creative formats. Accordingly, the preferred embodiment includes a creative format host map 754 which includes information regarding the advertisement formats supported by each host.

The portion of the data structure illustrated in FIG. 7b includes a Creative Campaign Data Map 738 which is the central tracking record that tracks the creative-tracking-id (TD). When a system user associates a creative marketing effort and a particular marketing buy, a unique TIID is created and assigned to the unique marketing effort combination of advertisement and marketing effort placement purchased from a host.

The main record for storing every "click" or selection processed by the system is the click data record 732. The time stamp, PD, SD, TD that redirected the click and any answer to an interactive marketing effort are collected in this record. The creative

campaign data status record 730 includes information regarding the time that the advertisement was placed with the host and when it was removed.

Many of the metrics calculated are standard and are summarized on a periodic basis, for example, daily or weekly. Because of the large amount of data collected in the click data record 732, the process of reading the data to calculate metrics such as the weekly amount of clicks for a particular TID would be a large task. Accordingly, the preferred embodiment includes a summary object 736 that is used to calculate and store the desired metric on a shorter periodic basis, for example, daily. The reports later generated are then created from the summarized data. The summary description object 734 includes information regarding the description and description identification codes of the metrics summarized.

Referring to FIG. 7 c, therein is illustrated the portions of the data structure which relate to the client advertiser and the client's interaction with the system.

The portion of the data structure illustrated in FIG. 7c includes a Clients record 782 which is the central client information tracking record that controls client access to the database.

The system preferably supports several levels of access control. The system includes a t user record 760, t permissions record 762, and t permissions client record 772 that include password and other access information.

The actions record 764 and jobs record 774 track system projects as the progress through the system including action items for creating an advertising campaign, placing the campaign, tracking the campaign performance and reporting the performance to the client with any suggestions for improving the performance of future campaign based upon the historical performance of past campaigns and any demographic forecasting data used.

As can be appreciated, the system reports generated may utilize only a subset of the metrics available and may be formatted according to the clients request. Similarly the client can configure the report desired by interacting with the system. The report column map record 766 includes descriptions of the reported columns of metrics in the report.

The report col query record 768 is used to store the custom report queries that are requested by a client that are not standard reports.

The report col record 776 includes information about the report columns available such as the title, a description of the column and the query used to create the metric reported in that column. The report col clients map record 778 is used to reference columns used by a client. The report col map record 766 is used to reference previous columns in the report. For example, a column that is a conversion rate uses two other



columns in the calculation and the report col map will substitute those columns in the calculation.

The permissions record 780 is a set of permissions or access controls for each table that are defined. The users permissions map record 786 includes information  
5 regarding the permission level each system user has for each record in the system database. The users include system users and clients accessing the system. The users record 790 includes user-name and permission information for each user.

The client permissions record 784 is a set of permissions for tables that may be accessed by the client. The users cp clients map record 788 includes information  
10 regarding which system users can control the database information for specific clients.

A client of the system can be a company or conglomerate that owns distinct brands that are to be tracked separately. The brands record 770 allows the system to track more than one brand in a client umbrella.

As can be appreciated, the various data file and processing functions  
15 described can be carried out on the same computer, or any or all of the functions can be accomplished using more than one computer.

Although the preferred embodiments have been disclosed for illustrative purposes, those skilled in the art will appreciate that many additions, modifications and substitutions are possible without departing from the scope and spirit of the invention as  
20 defined by the accompanying claims.

25

30

35

**WHAT IS CLAIMED IS:**

1. A system of tracking online marketing efforts, comprising:  
one or more host servers providing to users advertisements related to one or  
5 more uniquely identifiable marketing efforts;  
a click server receiving input from the one or more host servers when a user  
selects an advertisement;  
an advertizer server receiving input from the click server, said input  
including redirected users who have selected an advertisement;  
10 a logfile server collecting data about user activity from the click server and  
the advertiser server; and  
a server processing the collected data to obtain information about each  
marketing effort and user activity associated with the marketing effort.
- 15 2. The system of claim 1 further comprising a report server using the obtained  
information to generate a report concerning at least one marketing effort over a  
predetermined period of time.
3. The system of claim 1, wherein said one or more host servers identify each  
20 user with a unique identification number.
4. The system of claim 1, wherein said click server provides a record of each  
user redirected to the advertiser server.
- 25 5. The system of claim 4, wherein the provided user record is unique.
6. The system of claim 1, wherein said click server provides a record of the  
time when a user selects an advertisement.
- 30 7. The system of claim 6, wherein the provided time record is processed to  
determine timing characteristics of the associated marketing effort:
8. The system of claim 1, wherein each user and each user activity is associated  
with unique electronic identification.

35

9. The system of claim 8, wherein the unique electronic identification is processed to provide a return on investment measure associated with at least one marketing effort.

5 10. The system of claim 1, wherein data collected at the logfile server comprises timing information on personal identification.

11. A method of tracking online marketing efforts, comprising the steps of:  
providing to users advertisements related to one or more marketing efforts,  
10 each effort having unique identification;  
receiving input indicative of users selecting a provided advertisement;  
collecting data about user activity associated with the selection of an  
advertisement; and  
processing the collected data to obtain information about the marketing  
15 effort and the associated user activity.

12. The method of claim 11 further comprising the step of generating a report concerning at least one marketing effort over a predetermined period of time.

20 13. The method of claim 11, wherein each user and each user activity associated with the selection of an advertisement is provided with unique identification code.

14. The method of claim 11 further comprising the step of re-directing a user to an advertiser server upon the selection of an advertisement.  
25

15. The method of claim 14 further comprising the step of storing unique identifications associated with users and user activity in a computer memory.

16. The method of claim 15 further comprising the step of providing a record of  
30 repeat users based on information stored in the computer memory.

17. A method for tracking online marketing efforts comprising the steps of:  
providing a plurality of unique marketing effort tracking identification codes;  
obtaining user input information for one or more users;  
35 providing at least one user identification code for at least one user;

redirecting the at least one user to a destination computer identified by a unique marketing effort tracking identification code;

obtaining user information related to the at least one user; and

5 obtaining interaction information related to the at least one user and to at least one user interaction with the destination computer.

18. The method of claim 17, wherein at least one user is redirected to a particular page at a site of the destination computer based upon the user input information obtained for that user.

10

19. The method of claim 17 further comprising the steps of:  
processing interaction information to obtain performance information related  
to at least one marketing effort; and  
reporting the performance information to at least one client.

15

20. The method of claim 17 further comprising the steps of:  
processing interaction information to obtain summary information related to  
at least one marketing effort; and  
reporting the summary information to at least one client.

20

21. The method of claim 17 wherein:  
the at least one user identification code includes a permanent user  
identification code and a sessional identification code whereby the system provides a unique  
sessional identification code for at least one session of at least one user accessing the  
25 destination computer,

whereby the permanent user identification code is set to the first sessional  
identification code assigned to the at least one user.

22. The method of claim 21 wherein:  
30 at least one unique sessional identification code includes a time stamp and a  
unique sequential mantissa.

23. The method of claim 17 wherein:  
the user input information obtained includes at least one marketing effort  
35 tracking identification code and at least one universal resource locator address for the  
destination computer.

24. The method of claim 17 further comprising the step of:  
sending a user identification record to the user.

25. A method for determining the redundancy of online marketing efforts  
5 comprising the steps of:

providing unique marketing effort identification codes for a plurality of  
marketing efforts including at least one subject marketing effort and a reference marketing  
effort;

10 tracking user interaction with the plurality of marketing efforts, the step of  
tracking comprising: for at least one user receiving user information for each tracked user  
interaction with a marketing effort;

providing a plurality of user identification codes for users interacting with  
the plurality of marketing efforts, each user identification code comprising a permanent user  
identification code and a sessional identification code;

15 processing the user information and the tracked interaction information to  
determine a redundancy value, where the redundancy value is related to the number of users  
who accessed the at least one subject marketing effort that also accessed the at least one  
reference marketing effort.

20 26. The method of claim 25 further comprising the steps of:  
determining the redundancy value as a numerical ratio of the number of users  
accessing a destination computer via the at least one subject marketing effort that also  
accessed the destination computer via the reference marketing effort to the total number of  
users to access the destination computer via the subject marketing effort.

25 27. The method of claim 25 further comprising the steps of:  
obtaining performance information related to at least one subject marketing  
effort;

30 modifying the performance information based upon the redundancy value of  
the at least one subject marketing effort; and reporting the modified performance  
information to at least one client.

28. A system for tracking and analysis of online marketing efforts comprising:  
means for providing to users advertisements related to one or more  
35 marketing efforts; each effort having unique identification;

means for receiving input indicative of users selecting a provided advertisement;

means for collecting data about user activity associated with the selection of an advertisement; and

5 means for processing the collected data to obtain information about the marketing effort and the associated user activity.

29. The system of claim 28 further comprising means for generating a report concerning at least one marketing effort over a predetermined period of time.

10

30. The system of claim 28 further comprising means for associating users and user activities with unique identification codes.

31. The system of claim 28 further comprising means for redirecting users to an  
15 advertiser server upon selection of an advertisement.

32. The system of claim 30 further comprising memory for storing the unique identification codes.

20

25

30

35

1/6

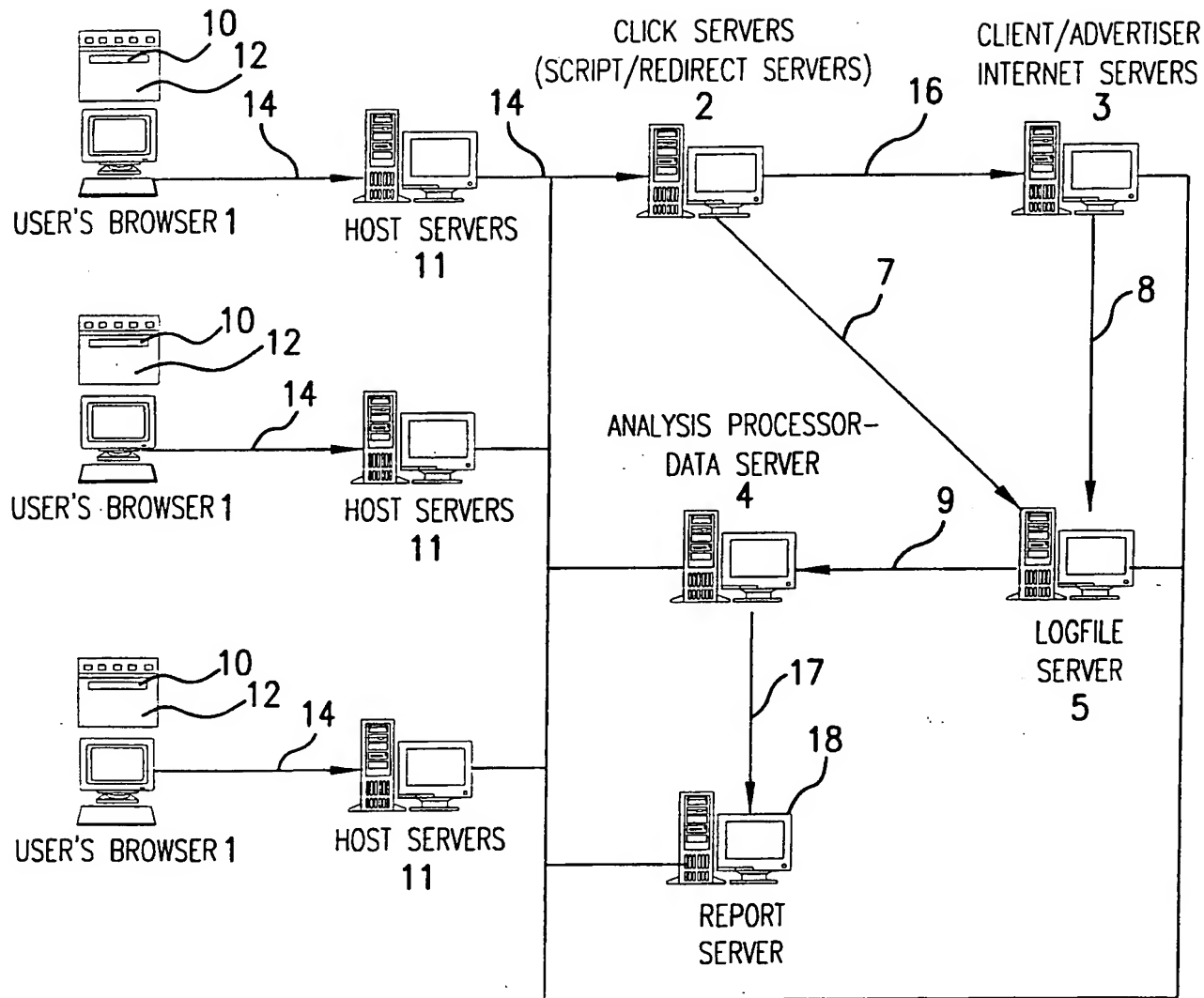


FIG.1

2/6

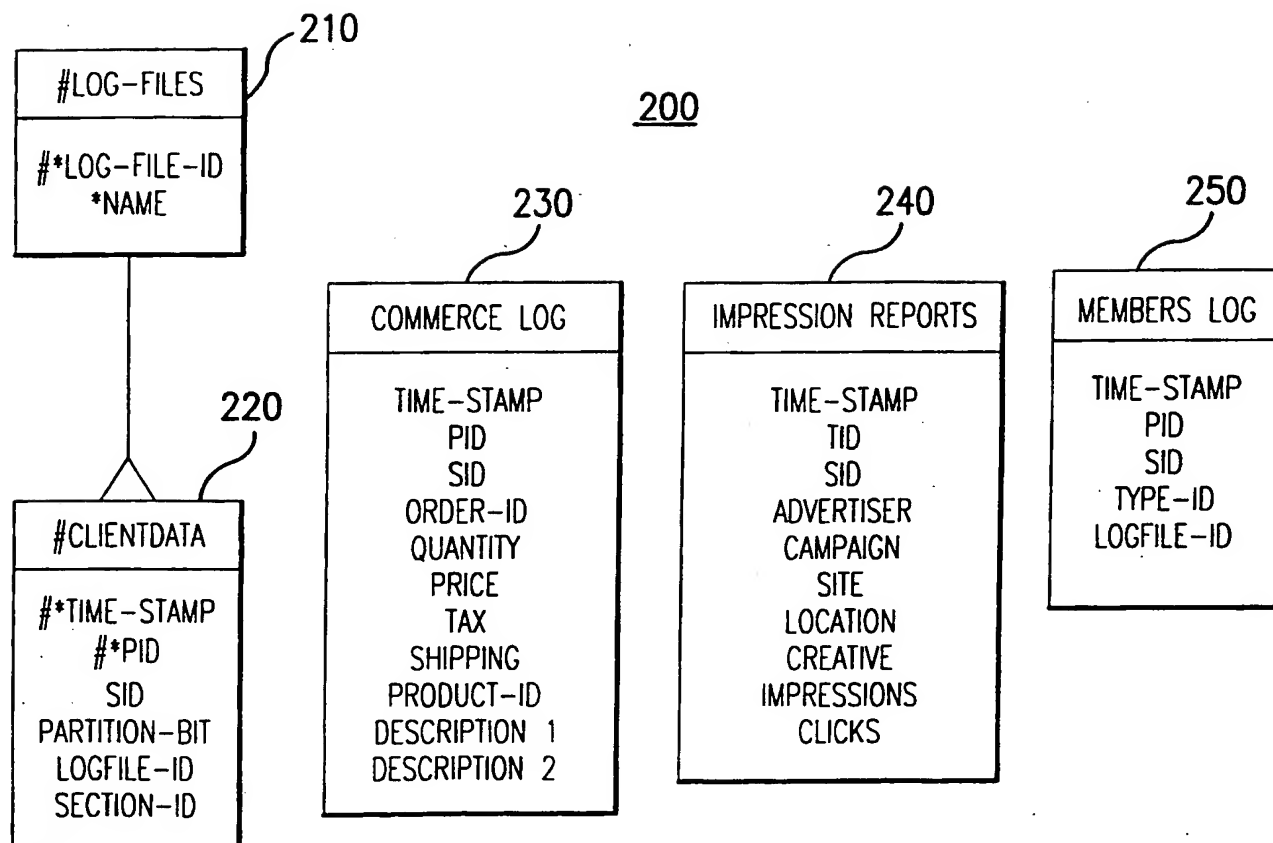


FIG.2



3/6

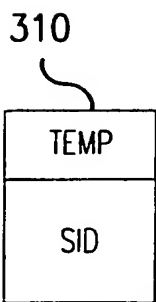


FIG.3

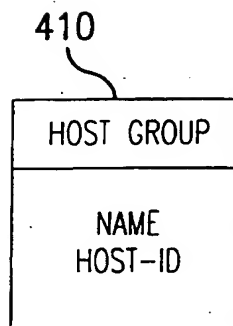


FIG.4

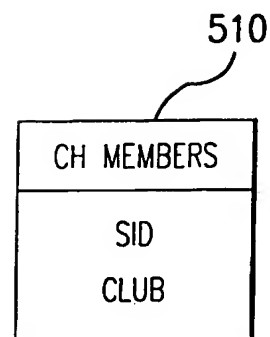


FIG.5

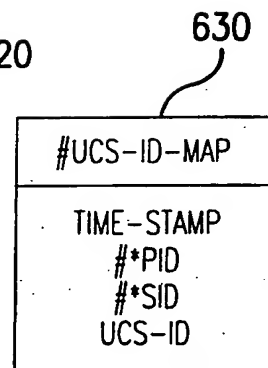
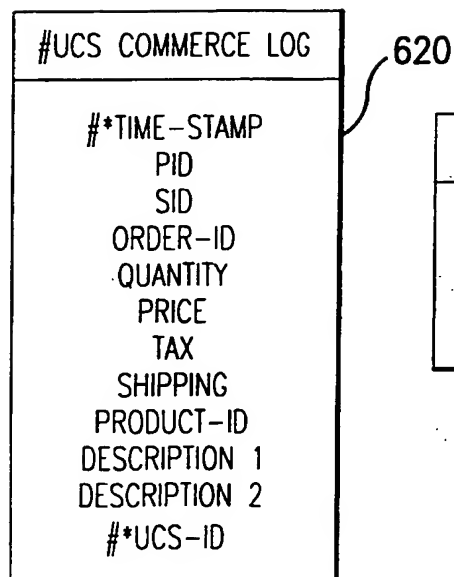
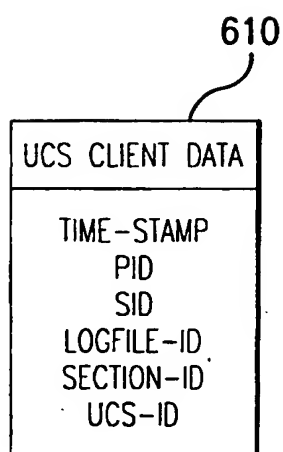


FIG.6

4/6

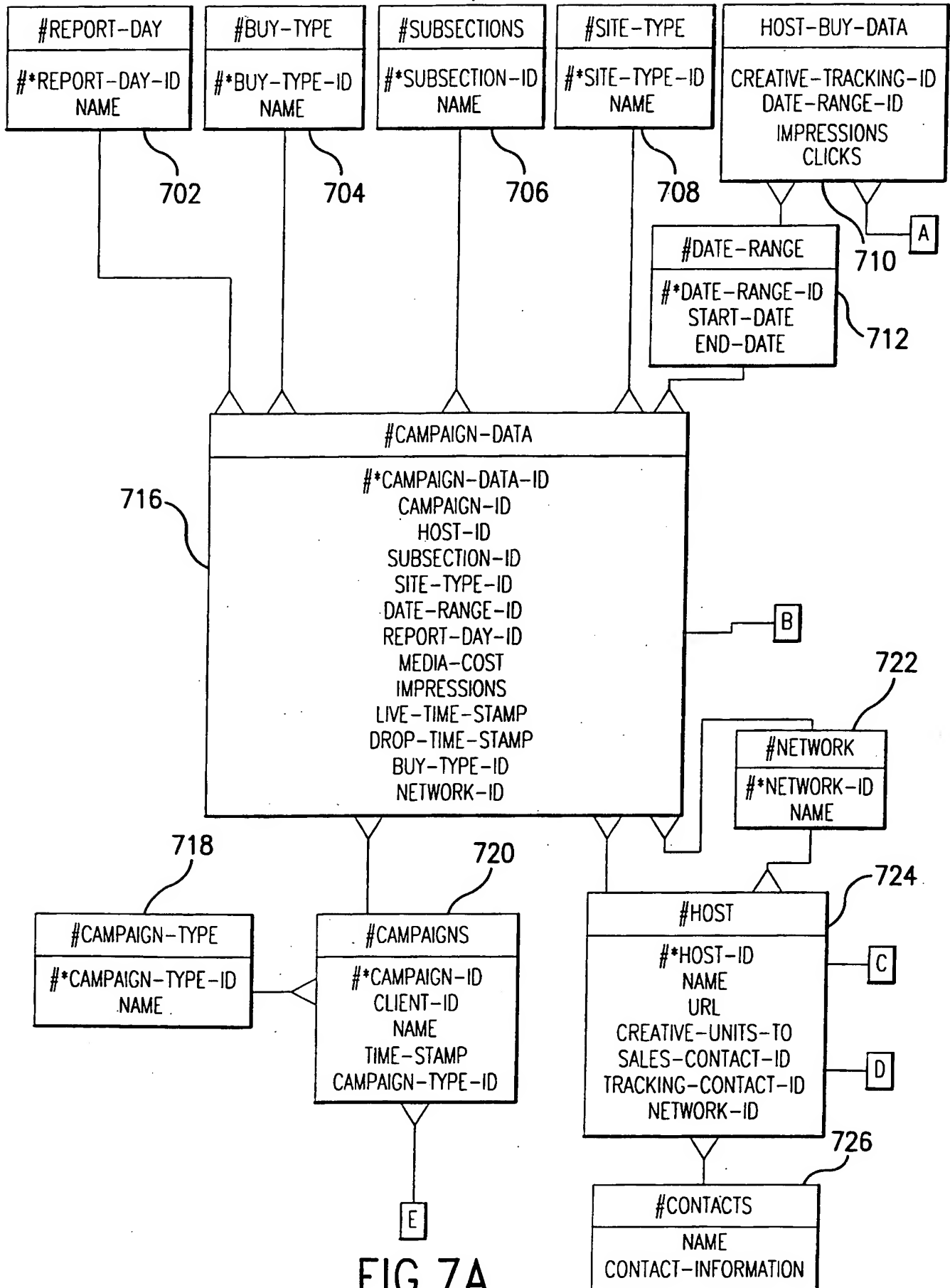


FIG. 7A

**SUBSTITUTE SHEET (RULE 26)**

5/6

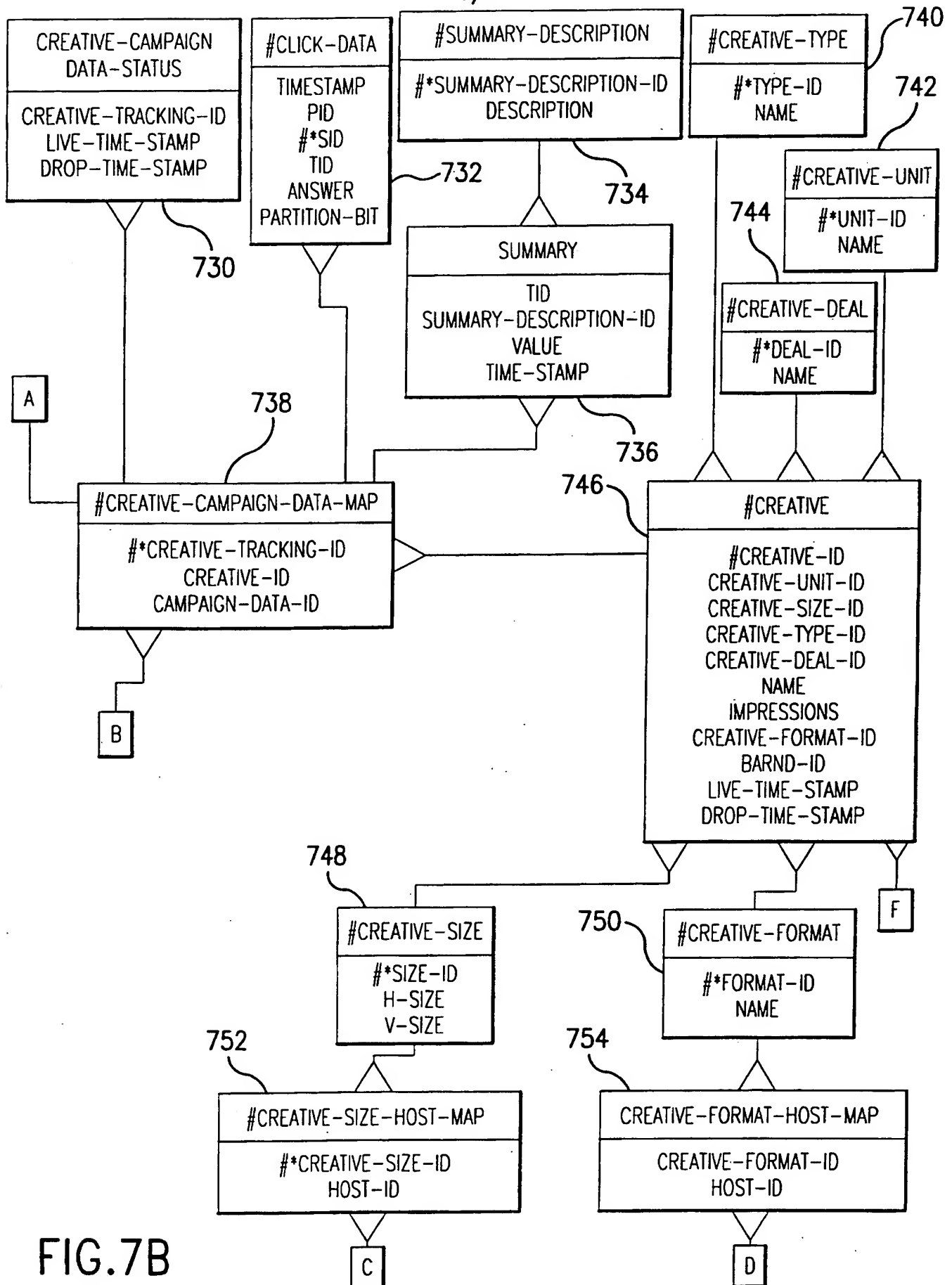


FIG. 7B

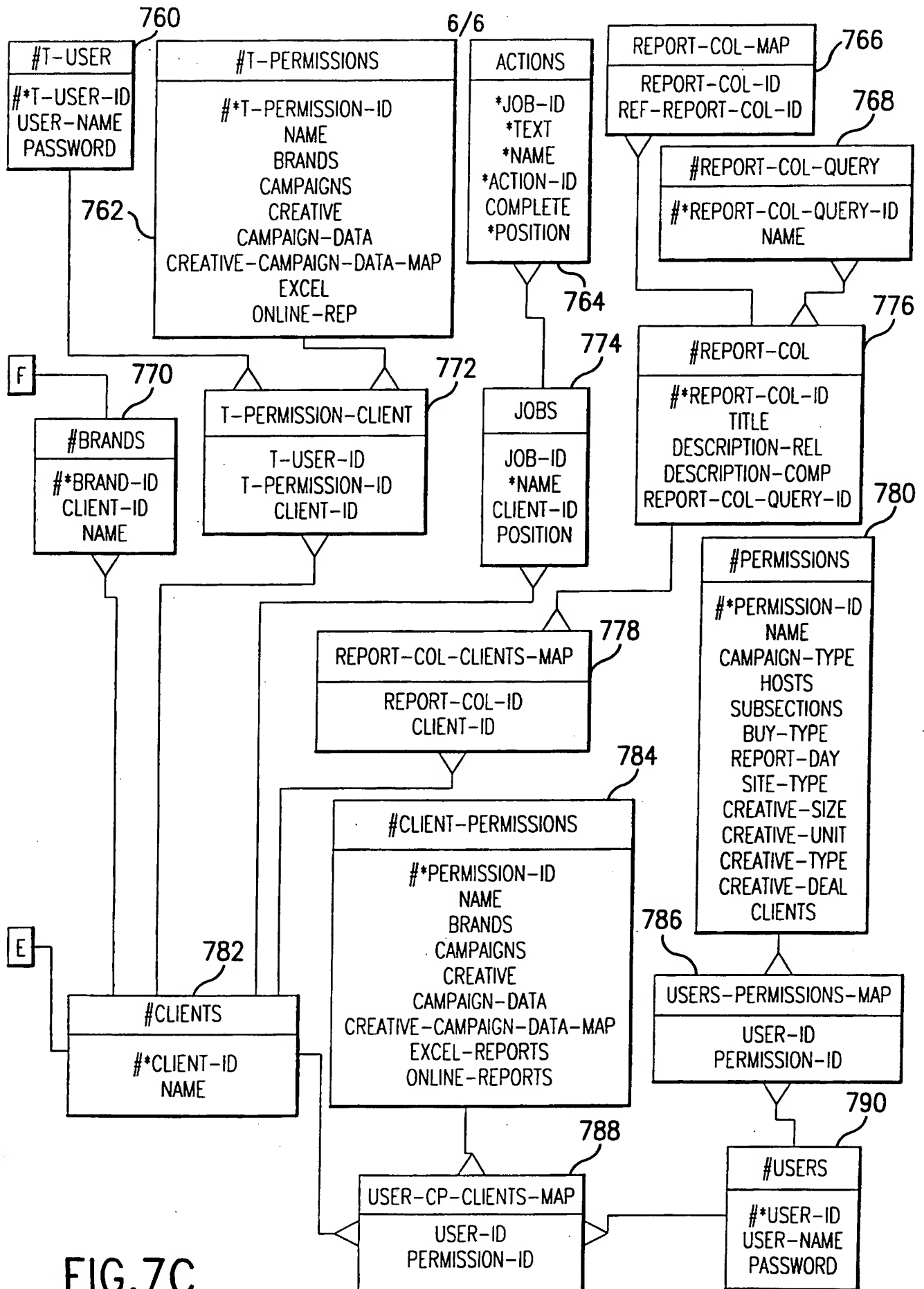


FIG. 7C

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/20435

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7): G06F 17/60

US CL : 705/1,11,14,26,27; 709/200,201,202,203

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/1,11,14,26,27; 709/200,201,202,203

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
INTERNETElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
DIALOG, EAST (search terms: advertisement, server, market, marketing, information, data, tracking, online, Internet)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,E	US 6,119,098 A (GUYOT et al) 12 September 2000, cols. 1-2	1-32
Y,P	US 6,055,573 A (GARDENSWARTZ et al) 25 April 2000, cols. 2-4	1-32
Y,P	US 6,055,510 A (HENRICK et al) 25 April 2000, cols. 5-8	1-32
Y,P	US 6,047,327 A (TSO et al) 04 April 2000, cols. 25-28	1-32
Y,P	US 5,991,735 A (GERACE) 23 November 1999, cols. 2-3 and 33-36	1-32
Y,P	US 5,948,061 A (MERRIMAN et al) 07 September 1999, cols. 2-3 and figure 1	1-32

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

01 NOVEMBER 2000

Date of mailing of the international search report

01 DEC 2000

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

TARIQ HAFIZ

*James R. Matthews*

Telephone No. (703) 305-9643

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/20435

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,740,549 A (REILLY et al) 14 April 1998, cols. 15-18	1-32
Y	US 5,724,521 A (DEDRICK) 03 March 1998, cols. 19-20	1-32
Y	US 5,721,908 A (LAGARDE et al) 24 February 1998, cols. 18-28	1-32
Y	US 5,717,923 A (DEDRICK) 10 February 1998, cols. 17-20	1-32
Y	US 5,710,884 A (DEDRICK) 20 January 1998, cols. 16-22	1-32

Form PCT/ISA/210 (continuation of second sheet) (July 1998)★